

ASSESSING COLLABORATIVE PROBLEM SOLVING ONLINE: EXPERIENCES OF A PILOT STUDY

Anita Pásztor-Kovács

Doctoral School of Education, University of Szeged

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Collaborative problem solving competence is considered to be one of the 21st century skills (Binkley et al, 2011), nevertheless, so far we have very limited empirical experience regarding its diagnosis (Hsieh and O'Neil, 2002; OECD, 2013; Rosen and Tager, 2013). In order to fill this gap, in our research we create a third generation online assessment tool which is able to examine both cognitive and social components of the competence at the individual level. The aim of this pilot study was to investigate (1) the psychometric properties of the items of our online test and (2) the acceptability and enjoyability of the test reported by the participants (e.g. level of complexity and design of the test).

In our study 70 bachelor students completed our online test in 17 three, four and five member groups via the eDia (Electronic Diagnostic Assessment) platform. First participants had three minutes to try out the chat function and also to introduce themselves to their groups which were composed randomly by our server. Then four shared problem solving tasks, containing eleven items, were presented to the groups, with a pilot task beforehand. Finally, students were asked about their opinions about the test by five point Likert scale items and a qualitative question.

As the group members had to give the same solutions to the problems, we calculated with one participant's data from each group (N=17) in the analysis on problem solving results. The reliability index of the eleven item test was Cronbach's $\alpha=.79$. The total scores' mean was 8.94 (SD=2.49). The mean value of the Likert item referring to the level of difficulty was 3.26 (SD=.53), while that of referring to enjoyability was 3.66 (SD=.857). Out of 37 answers to the qualitative question, students made 15 comments (41%) on their general attitudes about the test, 14 gave a positive opinion, and one participant reported that she wouldn't prefer working like this. 10 answers from 37 (27%) referred to the chat function, three commented on its being interesting, three participants found the function really good and modern, while two found it less efficient, one described it disturbing, one expressed her frustration about not seeing her collaborators' faces and one qualified live communication to be better. Based on our results we consider our new, third generation test to be coherent, acceptable and enjoyable for the participants. However, the notable size of standard deviation of the Likert items and also the divisive reactions given to the chat function suggest that some of the students find this new online collaborative test environment uncomfortable or dissatisfying. Further research is required to find out whether younger students (6th to 12th grade pupils) give the same pattern of reactions to the modern test context and to investigate whether different age groups produce lower achievement or whether we should raise the level of complexity of the test due to the quite high test results.

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